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ABSTRACT

Numerous studies that used the Chicago Attitudes Inventory in the late 1940s and early 1950s found that various indicators of religion were related to good personal adjustment in old age. This article reports findings of a 1988 study that replicated Moberg's 1951 in-depth research on the subject. Based on this earlier research, interview schedules were developed to measure religious activities, religious faith, and personal adjustment among 100 mobile persons who resided in congregate living and public housing facilities in the Milwaukee, Wisconsin metropolitan area. Multiple regression analysis disclosed that religious activities were strongly related to personal adjustment, but religious beliefs were less so than before, perhaps because such a high proportion of the research subjects had high levels of religiosity. Comparisons with other recent research and suggestions for further investigation are presented. An extensive list of references is included, and data from the study are tabulated. (Author/TE)

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RELIGION AND PERSONAL ADJUSTMENT IN OLD AGE: A REPLICATION AND EXPLICATION[1]

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Abstract:

Numerous studies that used the Chicago Attitudes Inventory in the late 1940s and early 1950s found that various indicators of religion were related to good personal adjustment in old age. This article reports findings of a 1988 study that replicated Moberg's 1951 in-depth research on the subject. Religious activities again were strongly related to personal adjustment, but religious beliefs were less so than before, perhaps because such a high proportion of the research subjects had high levels of religiosity. Comparisons with other recent research and suggestions for further investigation are presented.

Key Words: Religiosity, Personal adjustment, Chicago Attitudes Inventory, Life satisfaction, Church participation, Well-being.

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RELIGION AND PERSONAL ADJUSTMENT IN OLD AGE:

A REPLICATION AND EXPLICATION

If religion has either the salutary effects in the lives of people that its advocates claim or the negative consequences alleged by its opponents, its results should be the most evident after the prolonged operation of religious influences, hence in old age.

Several studies in the late 1940s and early 1950s that dealt with the sense of well-being or life satisfaction in old age included religious variables. They found that "personal adjustment" and "happiness" were positively related to religious affiliation (J. H. Britton, 1950; Cavan et al., 1949; Schmidt, 1951), church attendance (J. O. Britton, 1950; Landis, 1942; Pan, 1951; Pressey & Simcoe, 1950; Schmidt, 1951; Shanas, 1949), and selected religious beliefs (Lawton, 1943; J. H. Britton, 1950; Schmidt, 1951; Shanas, 1949). Several of them also identified specific religious practices that were associated with personal adjustment, and Oles (1950) found that all of the well-adjusted Orthodox Jews in her study, but only one-third of those who were poorly adjusted, were either intensely or fairly religious.

Similar findings have emerged in recent studies, but systematic replication has not been attempted. Besides the issues of undone studies, unasked questions, and poorly conceptualized topics, "This lack of verification through replication of the research constitutes another

unnecessary loss, one that sours our faith in the data" (Seltzer, 1989/90). This article reports on an attempt in 1988 to reproduce one of the significant studies (Moberg, 1951) that was done thirty-seven years earlier.

The 1951 Study

Most of the research during and after 1949 used the Personal Adjustment Scale of the Chicago Attitudes Inventory (Burgess, Cavan, & Havighurst, 1948) to measure the dependent variable. The findings on religion, however, were coincidental to other concerns; the research was not primarily oriented around religion as the central independent variable. The one exception was Moberg's (1951) doctoral dissertation, which analyzed religious variables in relationship to personal adjustment for a cluster sample of 219 persons aged 65-plus who resided in congregate facilities in the Minneapolis-St. Paul Metropolitan Area. Using experimental designs (Chapin, 1947) with pre-computer technology, it found that applying control variables to match individuals who were similar on various independent variables reduced some of the initial differences that were observed and increased others.

The 132 church members had a mean personal adjustment score of 28.4 on the Chicago Attitudes Inventory, while the non-members had a mean score of 23.3. (Higher scores indicate better personal adjustment.) The direction of the findings persisted within the categories of sex, age, nativity, place of residence, education, church preference, marital status, family status, self-rating of health, participation in social organizations, and self-rating of health. When, however, individuals from the experimental (church members) and control groups (non-church members) were matched individually with each other with the use of seven control variables, the

53 remaining members had a mean score of 26.8 and their matched non-members had a score of 24.9. The addition of two more control variables reduced the groups to nine persons each with scores of 24.1 and 24.2, thus eliminating the original difference (Moberg, 1951, 1953a, 1953b). Non-members who had been members during part or most of their adult years also had higher adjustment scores (25.5) than those who did not indicate ever having been members (21.5), and the four non-members without even a church preference had the lowest scores of all (15.5). These findings suggested the likelihood that it is not church affiliation in and of itself that accounts for the higher adjustment in old age but other factors like the religious activities and beliefs that are associated with membership.

Ten items therefore were used to build a Religious Activities Score (present, past, and childhood attendance at religious services; present and past offices and leadership positions held in a church; frequency of grace at meals and of family prayers or worship during most of the adult life; and current frequencies of reading the Bible, reading other religious books, private prayer, and listening to religious radio programs) which had a range from 0 for none to 23 for the highest involvement. The scores correlated highly and significantly with the personal adjustment scores ($r = +.593$, standard error .044, T-ratio 8.7) for the 219 subjects. The 86 "religiously active" respondents (RAS scores of 15 or more) had a mean personal adjustment score of 31.1, while the 41 "religiously inactive" (RAS scores of 8 or less) had a mean score of 18.3. Matching persons from the two groups with seven control variables (supplemented by additional "secondary-control factors" whenever there was a choice among two or more persons who could be retained in the matching

of individuals; Moberg, 1954) reduced their numbers to 19 pairs with mean scores of 28.7 and 16.3, respectively, a difference significant at the .01 level of confidence (Moberg, 1951; 1956).

Five religious faith variables (about prayer, sin and forgiveness, the Bible, Jesus, and the future) were similarly combined to form a Religious Belief Score with possible variation from 0 to 10. Its significant correlation with the personal adjustment score was +.462 (standard error .053). The 155 "believers" (RBS of 7 to 10) had a mean personal adjustment score of 28.0 and the 35 "non-believers" (scores 0-4) a score of 19.9. An experimental design matching the two groups with seven control variables (again supplemented by additional "secondary-control factors" whenever two or more persons could be retained in the matching of individuals) yielded 22 persons in each group. The scores of 27.2 and 19.9, respectively, were significantly different at the .01 level, thus verifying the superior adjustment of the believers (Moberg, 1951, 1958).

The general conclusion reached from the 1951 research was that the relationship of church affiliation to good personal adjustment in old age is spurious, apparently due to other variables that are associated with membership. The two most prominent explicatory or intervening variables that were identified as associated with good personal adjustment in old age were engaging in many religious activities and holding orthodox Christian beliefs (Moberg, 1951, 1953a).

The 1988 Replication

Methods

Moberg's (1951) research on religion and personal adjustment in old age was replicated in 1988. The 1951 interviewing schedule was adapted to fit conventional modes of pre-coding and recording data for analysis by

computer. Minor modifications of many questions also were made to enable more sophisticated types of SPSS analysis. The threefold "Agree, Disagree, ?" response pattern of the Chicago Attitudes Inventory was modified to "Strongly Agree, Agree, Tend to Agree, Tend to Disagree, Disagree, Strongly Disagree," but the personal adjustment score was calculated in the original three-category pattern by treating SA and A as equivalent to agree, D and SD as disagree, and TA and TD as if they were the "?" response. This yielded the same potential range of 0 to 48 in the composite personal adjustment score, based on the eight attitudes sub-sections (health, friends, work, economic security, religion, feeling of usefulness, happiness, family).

Responses were obtained on interview schedules completed by research methods students for 100 mobile persons who resided in congregate living and public housing facilities in the Milwaukee metropolitan area. The age distribution was higher in 1988; the median, mean, and modal category was 80 to 84 (accounting for 25 percent of the respondents, with 44 percent younger and 31 percent older). In 1951 the modal age also was 80 to 84 with 27 percent of the subjects, but 51 percent were younger and only 22 percent older.

Instead of tedious matching of individuals in the respective experimental and control groups as in 1951, multiple regression was used as an analogous equivalent technique.

Findings

The relationships between various aspects of religion and personal adjustment are very similar in 1988 to those found in the 1951 study. Respondents who had never been church members had the lowest personal adjustment scores, those who still were members the highest, and former

members ranked in between (Table 1). The personal adjustment scores averaged 18.0 for the 3 persons who were not church members and never had been, 26.2 for the 22 who were members only in the past, and 33.4 for the 73 who still were members. The Chicago Attitudes Inventory items in the

[Insert Table 1 about here.]

section on religion deal with satisfactions, not beliefs and activities. Nevertheless, the score was also adapted to correct for any possible contamination by dropping the religion section in the Chicago Attitudes Inventory . This yielded "non-religious attitudes scores" of 17.0, 21.8, and 28.0, respectively.

The correlation between the total personal adjustment score and the religious activities score was +.403, significant at the .000 level. This was reduced to +.342 for the non-religious attitudes score, still significant at the .001 level. The correlation between the religious belief score and the personal adjustment score was +.224, significant at the .025 level, but its correlation with the non-religious attitude score was only +.163 with a probability of .108.

Instead of using the tedious process of matching individuals in an ex post facto experimental design as in 1951, the SPSSx program for multiple regression was applied to the data. The results in Table 2 indicate that

[Insert Table 2 about here]

the religious activities score and self-rating of health account for almost all of the observed variance in the personal adjustment scores; none of the other six independent variables in the equation were significant. When the religion component was dropped from the Chicago Attitudes Inventory, the results for the non-religious attitudes score were only slightly attenuated.

Discussion

Most results of the 1951 and 1988 studies are very similar. They support the conclusion that the positive relationship so frequently observed between church membership and good personal adjustment is most probably due to other social and religious variables that are associated with membership rather than merely to affiliation in and of itself.

Religious Activities

The significant relationship of religious activities to personal adjustment in both 1951 and 1988 very likely reflects the social nature and context of a large proportion of such activities. The interpretive summary of Cox & Hammonds (1988, p. 19) clearly applies:

> The church does provide for its older members a wide range of social activities which tend to pull the older person into contact with other people and to reduce the possibility of social isolation and loneliness. Regardless of the reasons, older church members tend to be happier and better adjusted than non-members.

Further evidence of the significance of the social aspects of religion comes from research on 131 residents of high-rise apartment for low-income older persons (Johnson & Mullins, 1989). It found that the relationship between depression and loneliness was so strong that it obscured the religiosity-loneliness relationship in their regression equations. The social dimension of religiosity was significantly related to low levels of loneliness, but the subjective dimension of religiosity was not. This is roughly parallel to our finding that religious activities, which includes the social interaction variables of current, past, and present attendance at religious services, present and past church offices and leadership

positions, and family prayers or worship (besides indicators of personal piety), is more significantly related to personal adjustment scores than religious beliefs.

The church is an especially important center for social support and a major source of friendships among older adults. Over half of the geriatric patients in a central Illinois study reported that almost all of their closest friends came from their church congregations (Koenig, Moberg, & Kvale, 1988). Among blacks the church serves in many ways like an extended family and thus contributes significantly to their subjective well-being (Ortega et al., 1983). The importance of social networks to spiritual well-being, one of the probable sources of the church affiliation-personal adjustment correlation, has been documented also by the work of Young & Dowling (1987). Their West Texas research showed that frequent interaction in a social network significantly contributes to spiritual well-being, a variable that is related to both religion and personal adjustment.

Yet there is good reason to suspect that there is something special about social participation in religious groups that contrasts with participation in other organizations. Cutler's (1976) analysis of data from NORC general social surveys of the U.S. population found that church was the only organization for which membership was associated with well-being. Similar findings emerged also from the work of Edwards & Klemmack (1973) and Pihlblad & Adams (1972). This suggests the probability that the interactive influence of participation in religious groups with the beliefs, confession of faith, or other normative commitments that usually are required for acceptance as full church members have consequences that transcend those of other group affiliations

and social interaction patterns.

Adjustment, Well-Being, and Life Satisfaction

Other research confirms the positive relationship of religiosity to personal adjustment and analogous variables. Crawford et al. (1989) found that among 226 persons aged 17 to 71 those who had high personal religiosity were significantly less distressed and better adjusted than those who had medium or low religiosity. Morse & Wisocki (1987) similarly found that elderly people recruited from senior center programs in Massachusetts who had higher levels of religious activity and beliefs were more healthy psychologically than those with lower levels on several measures of psychological health, despite their cutoff at the median score of 8 for males and 9 for females on a 10-point scale of religiosity (i.e., the relationship prevailed even though most of those who were treated statistically as "low" in religiosity had relatively high scores; only 12.9 percent had scores of 4 or less). Koenig, Smiley, & Gonzales (1988) have summarized the almost universally positive relationship between various measures of religion and indicators of health that have been documented in dozens of studies older people.

Other research has similar findings on the positive relationship between religiousness and measures of life satisfaction (Witter et al., 1985; Levin, 1988; Clemente & Sauer, 1976; Crawford, Handal, & Wiener, 1989; Steinitz, 1980; Markides, 1983; Morse & Wisocki, 1987). Guy's (1982) large study of older people in Memphis even found that those who had decreased their church attendance from earlier years had lower levels of life satisfaction than those who had maintained or increased their attendance.

One exception to the general pattern is reported by Toseland & Rasch

(1979-80); in their national sample religious participation was not one of the nine variables that predicted (only) 21 percent of the variance in life satisfaction; however, they measured LS with but a single-item self-rating. What also seems to be an exception in the quality of life research of Campbell et al. (1976) is the result of errors in analysis of the data; Hadaway's (1978) reanalysis revealed a significant relationship between religiosity and life satisfaction.

The religion variables used in a three-wave longitudinal study of Mexican Americans over an eight-year period also reveals mixed findings. When dropouts from the study were included, religious attendance was a significant predictor of life satisfaction, but not when they were excluded from the analysis (Markides et al., 1987). A ceiling effect from the "relatively high rates of religious participation and nonorganizational religious expression" (p. 664) of the Mexican-American elderly may be part of the reason for the lack of significant findings. In addition, the weakness of association between religious variables and life satisfaction may be a result of such other limitations as the small number of religion variables included, the small number of response options for them, and the predominantly Catholic religion of the respondents (Koenig, Smiley, & Gonzales, 1988, pp. 64-66).

Religious Beliefs

The most surprising 1988 difference from the 1951 findings was the lack of significance of the Religious Belief Score in the regression equation on personal adjustment, despite its significant correlation of +.224 ($p = .013$) with personal adjustment and its correlation of +.536 ($p = .000$) with the religious activity scores. This puzzling finding may be a consequence of the relationship of beliefs to other more basic

independent variables, such as the degree of conviction with which the beliefs are held. For example, Young & Dowling (1987) found that strength of religious conviction, a variable not examined directly in this replication study, is the strongest predictor of both organized religious activities and private religious behavior among older people. Beliefs can be held so casually or nominally that there is no depth or strength of conviction; if that orientation is widespread among the subjects of research, the lack of statistically significant relationships between religious beliefs and dependent variables like personal adjustment is not surprising.

The lack of significance of the religious belief scores in the 1988 regression equation on personal adjustment could also result from the methods used, the size of the sample, or its unique characteristics. There were fewer than half as many respondents as in the 1951 study, thus introducing the limitations that emerge from the mathematics of sampling statistics. There also were different analytical methods (multiple regression on the total sample in contrast to the 1951 matching of individuals from approximately the highest and the lowest one-third of the range of scale scores for the experimental and control groups).

The deviation of findings from those of the earlier research may be due also to ceiling problems with the data. The predominantly Christian belief orientation among respondents in the 1988 elderly cohort is obvious. Eighty-four percent pray several times a week or more often; 92 percent believe in the concept of sin, and only 4 percent do not believe their own sins have been forgiven; 76 percent believe Jesus was the Savior who shed his blood for our sins; 63 percent believe the Bible is the perfect Word of God, and only 2 percent had no religion. Hence even those

who were relatively "low" on the religious indicators actually had a fairly high level of religiosity. This may have resulted in part from obtaining many of the respondents in religiously sponsored retirement facilities. Their high level of religious beliefs would make it very difficult to match persons who are genuinely "high" on the religious indicators with those who are "low" because there are so few of the latter.

In addition, the Religious Belief Scale included only a few items and did not sufficiently differentiate respondents who had merely moderate belief levels from those whose belief levels were high. Many might have obtained higher belief scores had the scale permitted them; that would have reducing the asymmetry of the distribution that piled up at the high end. (This problem is analogous to the finding of Elzerman & Boivin [1987] that the dimensions of religious belief and behavior are independent from personality differences to which they are not related in any clear and systematic way in samples of college students. They attribute this in part to the failure of extant measures to allow for distinguishing those who are unusually mature religiously from the other members of the same religious orientation and faith.)

However, Landes's (1988) research on 202 active elderly people in California and Florida also found that life satisfaction was not significantly correlated with religious beliefs and church attendance, although it was highly and significantly associated with measures of existential, religious, and spiritual well-being. It hence is possible that a period effect may be operating, with the elderly in 1988 living in a different social, cultural, and religious environment from that of 1951.

The Personal Adjustment Scale

This study also confirms the continuing usefulness of the Chicago Attitudes Inventory (Burgess et al., 1948), which was the most used instrument for research on successful aging during the late 1940s and the 1950s, although it needs appropriate adaptation for computer technology. Although the concept of "personal adjustment" has fallen out of favor among many social and behavioral gerontologists, the items in that Inventory are not greatly different from those used to measure such functional equivalents as "morale" and "life satisfaction." Criterion validity is provided (in part) by the fact that the 1988 personal adjustment scores varied directly with self-ratings of happiness in response to the question, "Right now, do you consider yourself to be ___":

Very happy	36.6
Quite happy	33.6
Just average	28.7
Unhappy	17.4
Very unhappy	10.0.

The interviewers had two recurring difficulties with the Attitudes Inventory. It asks for similar information in several questions. Some respondents were irritated at being asked to provide what seemed to them to be "the same information" twice in each set of seven questions for each sub-scale, not considering that one was negatively worded and the other positively. The other problem was more serious; the section on Work seems outmoded for almost all contemporary elders, for most equate work with paid employment. Only 6 of the 100 respondents in 1988 were employed, and they only part-time. A section on volunteer service activities would be more appropriate, although many of these are donated so informally that

many respondents would be likely to omit their mention.

The Inventory also puts elderly respondents who lack living family members at a disadvantage by including a sub-scale on attitudes and relationships with them and then adding its results to the total personal adjustment score.

The use of old, widely used measuring instruments increases the comparability of present and past findings, contributes to the verification goals of the sciences, and helps significantly to reinforce or modify gerontological knowledge, making its corpus more trustworthy. Despite its limitations, the once popular Chicago Attitudes Inventory is still a useful tool for research on life satisfaction in old age.

Future research

Numerous topics that need further investigation have emerged from this study. Among the more significant questions it raises are these:

Since social participation in religious organizations is positively related to various measures of well-being even though participation in other organizations is not (Cutler, 1976), what is the intervening causal variable? Is it the religious faith or commitment, beliefs, strength of conviction, theological orientation, or whole-person involvement that is the prerequisite, or at least the ideal standard, for full participation in many religious groups?

How highly correlated are scores on the adapted Chicago Attitudes Inventory with those of other scales to measure such concepts as life satisfaction, morale, successful aging, and quality of life? (See Sauer & Warland, 1982, and Larson, 1978, for good beginning work on this and related topics.) Concurrent use of these instruments can demonstrate the extent to which the CAI measures domains of well-being that the others do

not cover. Can several scales serve as functionally equivalent measures of basically the same phenomena for clinical and research purposes? And do the various measures comprise models that risk "imposing criteria of well-being on individuals who do not share the values and ideals implicit in the underlying dimensions" (Ryff, 1989, p. 49)?

Most American research on religion and well-being in old age has been done on samples of predominantly Catholic and mainline Protestant populations. Will similar findings emerge from studies of such minorities as Christian fundamentalists, Jews, Mormons, Hindus, Buddhists, and New Age devotees?

How ought the basic theoretical orientations in gerontology to be linked more explicitly with future research on religion and aging? (For significant contributions to this, see Levin, 1988; Ellison, 1988; Moberg, 1990; Ryff, 1989.)

What are the relationships of well-being, as variously defined, to institutional and interiorized religiosity (Levin & Schiller, 1987) and to organizational or public and nonorganizational or private religious activities (Mindel & Vaughan, 1978; Young & Dowling, 1987)? Are these and their consequences consistently related to each other? To what extent are there variations in their effects, and are these at least partly responsible for current differences in some of the findings of research on relationships between religion and successful aging, including personal adjustment and life satisfaction? Closely related is the issue of which forms and styles of religious life and expression are related positively to physical and mental health, and which negatively. (See Levin & Vanderpool, 1987; Vanderpool, 1980; Vaux, 1976; Koenig, Smiley, & Gonzales, 1988.)

Is the lack of significance of the religious belief scores in the regression equation on personal adjustment a consequence of major period effects or only of artifactual incidentals connected with the sampling of respondents and the asymmetry associated with the ceiling problem of the belief measurements in the current study? In contemporary psychology of religion, "cognitive approaches have become dominant--precisely because what we think and believe really does matter" (Goldsmith, 1989, p. 392). Among the results are greater theoretical complexity, increased theological sophistication, and more reliance upon multivariate, multileveled methodologies for research. The same need to prevail in gerontological studies of religion.

CONCLUSIONS

The findings of the 1988 study confirm the positive association of religious activities and beliefs with personal adjustment that was found in 1951, with only the exception that the belief-adjustment relationship did not hold up in the regression equation. The results are consistent with numerous other studies that relate religiosity to various measures of well-being, but the composite findings also point to the need for further research to deal with various nuances about the impact of religion on successful aging.

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RELIGION AND PERSONAL ADJUSTMENT IN OLD AGE: A REPLICATION
A Paper presented at the annual meeting of the Gerontological Society of America, Minneapolis, MN, November 18, 1989
by David O. Moberg, Professor of Sociology, Marquette University

TABLE 1. MEAN PERSONAL ADJUSTMENT SCORES BY CHURCH MEMBERSHIP

	1951		1988	
	N	Score	N	Score
Is not & never was a member	23	21.5	3	18.0
Is not but once was a member	64	24.0	22	26.2
Is still a church member	132	28.4	73	33.4
Total	219	26.4	98*	31.3

*No response = 2

TABLE 2. MULTIPLE REGRESSION OF EIGHT INDEPENDENT VARIABLES ON THE PERSONAL ADJUSTMENT SCORES, 1988 DATA

Variable	Personal Adjustment Beta	Significance	Non-religious score Beta	Significance
Religious Activities Score	.405	.0001	.366	.0006
Self rating of health	.382	.0000	.384	.0000
Club & association memberships	.153	.0908	.164	.0790
Age	-.141	.1177	-.134	.1477
Marital status	-.109	.2177	-.123	.1790
Education (years of school)	.096	.2799	.090	.3274
Religious Belief Score	-.052	.6000	-.093	.3638
Religious self-designation	.037	.6810	.031	.7373

Personal Adjustment Score (Chicago Attitudes Inventory):
Multiple R = .6405 R-square = .4103 F = 7.653, signif. .0000
Non-religious Score (Same without the Religion Scale):
Multiple R = .6096 R-square = .3716 F = 6.506, signif. .0000